

ABSTRACT OF THE DISCLOSURE

A catalyst composition and method for preparing a supported catalyst system for olefin polymerization is provided. In one aspect, the catalyst composition includes a reaction product of a dialuminoxane and a halogen substituted aryl borane, wherein the reaction takes place on a support and at conditions sufficient to exchange one or more ligands on the dialuminoxane for one or more ligands on the halogen substituted aryl borane while on the support. In one embodiment, the method for preparing the supported catalyst system includes combining a dialuminoxane with a support to form a treated catalyst support, and combining a halogen substituted aryl borane with the treated catalyst support at conditions sufficient to exchange one or more ligands on the dialuminoxane for one or more ligands on the halogen substituted aryl borane while on the support to form a supported activator. The method further includes reacting one or more polymerization catalysts with the supported activator.